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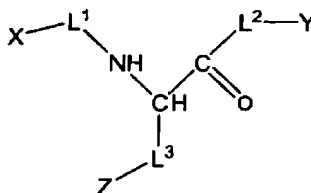
Appl. No. 09/820,210
Amdt. dated August 31, 2006
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 1641

PATENT

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

- 1 1. (Currently Amended) A heterofunctional crosslinking reagent having
2 the formula:



3 wherein

4 L^1 and L^2 are each independently selected from the group consisting of a bond, a
5 substituted or unsubstituted ($\text{C}_2\text{-C}_{24}$) alkylene group, a substituted or
6 unsubstituted ($\text{C}_2\text{-C}_{24}$) heteroalkylene group, a polyethyleneglycol group, a
7 polyalcohol group, a polyamine group, a polyester group and a
8 polyphosphodiester group;

9 $-\text{L}^3\text{-Z}$ is an optionally protected amino acid side chain having a pendant reactive
10 group, wherein said ~~reactive group~~ amino acid is selected from the group
11 consisting of lysine, cysteine, serine, aspartic acid, glutamic acid, and
12 threonine;

13 X is a non-covalent protein tag binder that specifically binds to a protein tag portion
14 of a protein; and

15 Y is a photoactivatable covalent crosslinking group adapted to covalently link the
16 heterofunctional crosslinking reagent at or adjacent to said protein tag, said
17 photoactivatable covalent crosslinking group is a member selected from the
18 group consisting of aryl ketones, azides, diazo compounds, diazirenes, and
19 ketenes.

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1 2.-4. (Canceled)

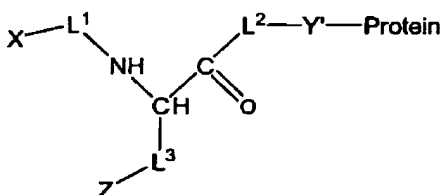
1 5. (Original) A heterofunctional crosslinking reagent of claim 1, wherein
 2 L^1 is a cleavable linking group.

1 6.-8. (Canceled)

1 9. (Original) A heterofunctional crosslinking reagent of claim 1, wherein
 2 X is selected from the group consisting of metal chelating groups, peptides, an
 3 organoarsenical moiety and small molecule ligands or inhibitors.

1 10.-25. (Canceled)

1 26. (Currently Amended) A protein conjugate comprising a protein and a
 2 heterofunctional crosslinking reagent, said conjugate having the formula:



3 wherein

4 L^1 and L^2 are each independently selected from the group consisting of a bond, a
 5 substituted or unsubstituted (C_2 - C_{24}) alkylene group, a substituted or
 6 unsubstituted (C_2 - C_{24}) heteroalkylene group, a polyethyleneglycol group, a
 7 polyalcohol group, a polyamine group, a polyester group and a
 8 polyphosphodiester group;
 9 $-L^3-Z$ is an optionally protected amino acid side chain having a pendant reactive
 10 group, wherein said ~~reactive-group amino acid is~~ amino acid is selected from the group
 11 consisting of lysine, cysteine, serine, aspartic acid, glutamic acid, and
 12 threonine;

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13 X is a non-covalent protein tag binder that specifically binds to a protein tag portion
14 of said protein; and
15 Y' is the residue of a photoactivatable covalent crosslinking group after formation of a
16 covalent linkage to said protein, said photoactivatable covalent crosslinking
17 group covalently attached at or adjacent to said protein tag portion of said
18 protein, said photoactivatable covalent crosslinking group is a member
19 selected from the group consisting of aryl ketones, azides, diazo compounds,
20 diazirenes, and ketenes.

1 27.-77. (Canceled)

1 78. (Previously presented) A heterofunctional crosslinking reagent of
2 claim 1, wherein X is an antibody or antibody fragment.